

First ISCCP Regional
Experiment (FIRE)
Atlantic Stratocumulus
Transition Experiment
(ASTEX) European
Remote Sensing Satellite
(ERS-1) Langley DAAC
Data Set Document



# **Summary:**

The First ISCCP Regional Experiments have been designed to improve data products and cloud/radiation parameterizations used in general circulation models (GCMs). Specifically, the goals of FIRE are (1) to improve basic understanding of the interaction of physical processes in determining life cycles of cirrus and marine stratocumulus systems and the radiative properties of these clouds during their life cycles and (2) to investigate the interrelationships between the ISCCP data, GCM parameterizations, and higher space and time resolution cloud data.

To-date, four intensive field-observation periods were planned and executed: a cirrus IFO (October 13 - November 2, 1986); a marine stratocumulus IFO off the southwestern coast of California (June 29 - July 20, 1987); a second cirrus IFO in southeastern Kansas (November 13 - December 7, 1991); and a second marine stratocumulus IFO in the eastern North Atlantic Ocean (June 1 - June 28, 1992). Each mission combined coordinated satellite, airborne, and surface observations with modeling studies to investigate the cloud properties and physical processes of the cloud systems.

All data sets discussed in this document were produced by European Remote Sensing Satellite (ERS-1). These data sets are:

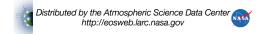
- FIRE\_AX\_ERS1\_ALTIMTR
- FIRE\_AX\_ERS1\_MCRWRAD
- FIRE\_AX\_ERS1\_SCTRMTR
- FIRE\_AX\_ERS1\_WINDS (not available at this time)

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#### 1. Data Set Overview:

#### **Data Set Identification:**



First ISCCP Regional Experiment (FIRE) Atlantic FIRE\_AX\_ERS1\_ALTIMTR Stratocumulus Transition Experiment (ASTEX) European Remote Sensing Satellite (ERS-1) FIRE\_AX\_ERS1\_MCRWRAD First ISCCP Regional Experiment (FIRE) Atlantic Stratocumulus Transition Experiment (ASTEX) European Remote Sensing Satellite (ERS-1) Microwave Radiometer Data (FIRE\_AX\_ERS1\_MCRWRAD) First ISCCP Regional Experiment (FIRE) Atlantic FIRE\_AX\_ERS1\_SCTRMTR Stratocumulus Transition Experiment (ASTEX) European Remote Sensing Satellite (ERS-1) Wind Scatterometer Data (FIRE\_AX\_ERS1\_SCTRMTR) FIRE\_AX\_ERS1\_WINDS First ISCCP Regional Experiment (FIRE) Atlantic Stratocumulus Transition Experiment (ASTEX) European Remote Sensing Satellite (ERS-1) Wind Data (FIRE\_AX\_ERS1\_WINDS) **Data Set Introduction:** See Summary above. **Objective/Purpose: Summary of Parameters:** FIRE\_AX\_ERS1\_ALTIMTR Wave Height Wind Speed **Brightness Temperature** FIRE\_AX\_ERS1\_MCRWRAD Wave Height Wave Speed Wind Direction FIRE\_AX\_ERS1\_SCTRMTR Wind Speed FIRE\_AX\_ERS1\_WINDS **Discussion: Related Data Sets:** 2. Investigator(s):

#### Investigator(s) Name and Title:

#### Title of Investigation:

First ISCCP Regional Experiment (FIRE)

#### **Contact Information:**

Laurence Eymard **CETP** Universite St Quentin - Versailles 10-12 av. de l'Europe 78140 Velizy FRANCE

Phone: 33 1 39 25 49 02 FAX: 33 1 39 25 49 22

Email: INTERNET - Laurence.Eymard@cetp.ipsl.fr

3. Theory of Measurements
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# 4. Equipment:

#### **Sensor/Instrument Description:**

**Collection Environment:** 

...

#### Source/Platform:

FIRE\_AX\_ERS1\_ALTI ERS-1 MTR FIRE\_AX\_ERS1\_MCR ERS-1 WRAD FIRE\_AX\_ERS1\_SCTR ERS-1 MTR FIRE\_AX\_ERS1\_WIND

# Source/Platform Mission Objectives:

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#### **Key Variables:**

FIRE\_AX\_ERS1\_ALTIMTR Wave Height Wind Speed

FIRE\_AX\_ERS1\_MCRWRAD Brightness Temperature

Wave Height Wave Speed

FIRE\_AX\_ERS1\_SCTRMTR Wind Direction

Wind Speed

FIRE\_AX\_ERS1\_WINDS

#### **Principles of Operation:**

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#### **Sensor/Instrument Measurement Geometry:**

...

### **Manufacturer of Sensor/Instrument:**

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#### Sensor/Instrument:

FIRE\_AX\_ERS1\_ALTIMTR
FIRE\_AX\_ERS1\_MCRWRAD

FIRE\_AX\_ERS1\_SCTRMTR
FIRE\_AX\_ERS1\_WINDS

RADAR ALTIMETER
MICROWAVE RADIOMETER
RADAR ALTIMETER
WIND SCATTEROMETER

Calibration:				
Specifications:				
Tolerance:				
Frequency of Calib	oration:			
Other Calibration I	nformation:			
5. Data Acqu	isition Metho	ods:		
6. Observation	ons:			
Data Notes:				
Field Notes:				
7. Data Desc	ription:			
Spatial Charact	teristics:			
Spatial Coverage:				
Data Set Name	Min I at	Max I at	Min I on	Max I on

FIRE_AX_ERS1_ ALTIMTR	22.47	42.63	-34.40	-10.17
FIRE_AX_ERS1_ MCRWRAD	23.00	43.00	-35.00	-10.00
FIRE_AX_ERS1_ SCTRMTR	22.20	42.94	-34.83	-10.15
FIRE_AX_ERS1_ WINDS				

# **Spatial Coverage Map:**

There are no maps available for these data sets.

**Spatial Resolution:** 

FIRE_AX_ERS1_ALTIMTR: N/A FIRE_AX_ERS1_MCRWRAD: N/A FIRE_AX_ERS1_SCTRMTR: 300 Km
FIRE_AX_ERS1_WINDS  Projection:
Grid Description:

**Temporal Characteristics:** 

# **Temporal Coverage:**

Data Set Name	Begin Date	End Date
FIRE_AX_ERS1_ALTIM	06-01-1992	06-15-1992
FIRE_AX_ERS1_MCRW RAD	/ 05-30-1992	07-01-1992
FIRE_AX_ERS1_SCTR MTR	06-01-1992	06-29-1992
FIRE_AX_ERS1_WIND S		

#### **Temporal Coverage Map:**

There are no maps available for these data sets.

#### **Temporal Resolution:**

Each granule for all of the data sets consist of one day of data.

#### **Data Characteristics:**

Parameter/Variable:

**Variable Description/Definition:** 

**Unit of Measurement:** 

**Data Source:** 

Data Range:

**Sample Data Record:** 

# 8. Data Organization:

Data Granularity:
A general description of data granularity as it applies to the IMS appears in the <u>EOSDIS Glossary</u> .
Data Format:
All data are in Native binary format.
9. Data Manipulations:
Formulae:
Derivation Techniques and Algorithms:
Data Processing Sequence:
Processing Steps:
Processing Changes:
<b></b>
Calculations:
Special Corrections/Adjustments:
<b></b>
Calculated Variables:
<b></b>
Graphs and Plots:
There are no graphs or plots available for these data sets.
10. Errors:
Sources of Error:
Quality Assessment:
Data Validation by Source:
Confidence Level/Accuracy Judgement:
Measurement Error for Parameters:
<b></b>
Additional Quality Assessments:
<b></b>
Data Verification by Data Center:

The Langley DAAC performs an inspection process on this data received by the data producer via ftp. The DAAC checks to see if the transfer of the data completed and were delivered in their entirety. An inspection software was developed by the DAAC to see if the code was able to

read every granule. The code also checks to see if every parameter of data falls within the ranges which are included in the granule. This same code extracts the metadata required for ingesting the data into the IMS. If any discrepancies are found, the data producer is contacted. The discrepancies are corrected before the data are archived at the DAAC.

#### 11. Notes:

Limitations of the Data:

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**Known Problems with the Data:** 

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**Usage Guidance:** 

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Any Other Relevant Information about the Study:

...

# 12. Application of the Data Set:

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#### 13. Future Modifications and Plans:

There are no plans for future modifications of these data sets.

### 14. Software:

#### **Software Description:**

There are sample read software available for these data sets. The codes are written in C. A makefile and readme file are also available. These files allow the users to compile and work with the data easily.

#### **Software Access:**

The software can be obtained through the Langley DAAC. Please refer to the contact information below. The software can also be obtained at the same time the user is ordering these data sets.

#### 15. Data Access:

#### **Contact Information:**

Langley DAAC User and Data Services Office NASA Langley Research Center Mail Stop 157D Hampton, Virginia 23681-2199 USA

Telephone: (757) 864-8656 FAX: (757) 864-8807

E-mail: support-asdc@earthdata.nasa.gov

#### **Data Center Identification:**

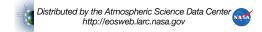
Langley DAAC User and Data Services Office NASA Langley Research Center Mail Stop 157D Hampton, Virginia 23681-2199

USA

Telephone: (757) 864-8656 FAX: (757) 864-8807

E-mail: <a href="mailto:support-asdc@earthdata.nasa.gov">support-asdc@earthdata.nasa.gov</a>

URL: http://eosweb.larc.nasa.gov



#### **Procedures for Obtaining Data:**

The Langley DAAC Information Management System (IMS) is an on-line system that features a graphical user interface (GUI) which allows users to query the Langley DAAC data set holdings, to view pre-generated browse products, and to order specific data products. Users may also request data by letter, telephone, electronic mail (INTERNET), or personal visit.

The Langley DAAC User and Data Services (UDS) staff provides technical and operational support for users ordering data. The Langley DAAC Handbook is available in a postscript file through the IMS for users who want detailed information about the Langley DAAC holdings. Users may also obtain a copy by contacting:

Langley DAAC User and Data Services Office NASA Langley Research Center Mail Stop 157D Hampton, Virginia 23681-2199 USA

Telephone: (757) 864-8656 FAX: (757) 864-8807

E-mail: support-asdc@earthdata.nasa.gov

URL: http://eosweb.larc.nasa.gov

#### **Data Center Status/Plans:**

The Langley DAAC will continue to archive this data. There are no plans to reprocess.

# 16. Output Products and Availability:

There are no output products available at this time.

#### 17. References:

Sorlie, S., February 1993. "Langley DAAC Handbook." NASA Langley Research Center, Hampton, Virginia.

# 18. Glossary of Terms:

**EOSDIS Glossary**.

#### 19. List of Acronyms:

**NASA** - National Aeronautics Space Administration **URL** - Uniform Resource Locator

**EOSDIS Acronyms**.

# 20. Document Information:

**Document Revision Date:** 

October 07, 1996; May 28, 1997; August 15, 1997; November 24, 1997

**Document Review Date:** 

October 07, 1996

Document ID:

Citation:

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**Document Curator:** 

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